

WHAT IS CLAIMED IS:

1. An electronic commerce system for conducting a commercial transaction between a user and a dealer, comprising:

5           a user identity information reading part provided in a dealer terminal, for reading user identity information presented by the user;

          a commercial transaction information presenting part provided in the dealer terminal, for presenting commercial transaction information representing contents of the commercial transaction;

10          a hand-written signature input part provided in the dealer terminal, for reading a hand-written signature input by the user who agrees to the presented commercial transaction information as electronic signature data;

          an electronic watermark embedding part provided in a third-party organization, for obtaining commercial transaction information representing  
15       contents of the commercial transaction information, the user identity information, and the electronic signature data from the dealer terminal, and providing commercial transaction identity information that uniquely specifies the commercial transaction to the electronic signature data as electronic watermark information, thereby generating electronic signature data with an  
20       electronic watermark; and

          a commercial transaction data storing part provided in the dealer terminal, for obtaining the electronic signature data with an electronic watermark, and storing the electronic signature data together with the commercial transaction information.

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2. An electronic commerce system according to claim 1, wherein the third-party organization includes a signature authenticating part for searching for previously registered authentic signature data of the user, based on the user identity information, and comparing the input electronic signature data with  
30       the authentic signature data, thereby authenticating the electronic signature data.

3. An electronic commerce system according to claim 2, wherein the electronic watermark embedding part includes an electronic signature data abstracting part for generating abstract information by abstracting the electronic signature data to electronic data with a previously specified bit length, and provides the abstract information as well as the commercial transaction identity information to the electronic signature data as electronic watermark information.

4. An electronic commerce system according to claim 1, wherein the electronic watermark embedding part includes an electronic signature data abstracting part for generating abstract information by abstracting the electronic signature data to electronic data with a previously specified bit length, and provides the abstract information as well as the commercial transaction identity information to the electronic signature data as electronic watermark information.

5. An electronic commerce system according to claim 1, wherein the electronic watermark embedding part includes a user confirming part for directly inquiring of the user about agreement on generating of electronic signature data with an electronic watermark in the commercial transaction, based on registered user's contact information, in a case where electronic signature data is transmitted through the dealer terminal, and

the user confirming part notifies the dealer terminal of rejection of generation of the electronic signature data with an electronic watermark, in a case where user's confirmation is not obtained.

6. An electronic commerce system according to claim 5, wherein the electronic watermark embedding part includes a telephone communication system and a voice response system, the contact information of the user is a mobile phone number carried by the user, and the user confirming part inquires of the user about results of the user's confirmation by using voice information through the mobile phone carried by the user to obtain user's confirmation.

7. An electronic commerce system according to claim 5, wherein the electronic watermark embedding part includes a communication part with respect to a portable terminal held by the user, the contact information of the user is address information of the portable terminal held by the user, and the user confirming part inquires of the user about results of the user's confirmation by using electronic data through the portable terminal to obtain user's confirmation.
- 10 8. An electronic commerce system according to claim 1, comprising a hand-written signature omission determining part for determining whether or not processing of authenticating hand-written signature is omitted, based on the commercial transaction information,
- 15        wherein, in a case where omission of a hand-written signature is admitted by the hand-written signature omission determining part, reading of electronic signature data by the hand-written signature input part and generation of the electronic signature data with an electronic watermark by the electronic watermark embedding part are omitted, and the read user identification information and the commercial transaction information are
- 20 stored in the commercial transaction data storing part.
9. An electronic commerce system for conducting a commercial transaction between a user and a dealer, comprising:
- 25        a user identity information reading part provided in a dealer terminal, for reading user identity information presented by a user;
- a commercial transaction information presenting part provided in the user terminal, for presenting commercial transaction information representing contents of the commercial transaction obtained from the dealer terminal;
- 30        a hand-written signature input part provided in a user terminal, for reading a hand-written signature input by a user who agrees to the presented commercial transaction information as electronic signature data;

an electronic watermark embedding part provided in a third-party organization, for obtaining commercial transaction information representing contents of the commercial transaction and the user identity information from the dealer terminal, obtaining the electronic signature data from the user terminal, and providing commercial transaction identity information that uniquely specifies the commercial transaction to the electronic signature data as electronic watermark information, thereby generating electronic signature data with an electronic watermark; and

a commercial transaction data storing part provided in the dealer terminal, for obtaining the electronic signature data with an electronic watermark, and storing the electronic signature data together with the commercial transaction information.

10. An electronic commerce system according to claim 9, wherein the third-party organization includes a signature authenticating part for searching for previously registered authentic signature data of the user, based on the user identity information, and comparing the input electronic signature data with the authentic signature data, thereby authenticating the electronic signature data.

11. An electronic commerce system according to claim 10, wherein the electronic watermark embedding part includes an electronic signature data abstracting part for generating abstract information by abstracting the electronic signature data to electronic data with a previously specified bit length, and provides the abstract information as well as the commercial transaction identity information to the electronic signature data as electronic watermark information.

12. An electronic commerce system according to claim 9, wherein the electronic watermark embedding part includes an electronic signature data abstracting part for generating abstract information by abstracting the electronic signature data to electronic data with a previously specified bit

length, and provides the abstract information as well as the commercial transaction identity information to the electronic signature data as electronic watermark information.

5 13. An electronic commerce system according to claim 9, wherein the electronic watermark embedding part includes a user confirming part for directly inquiring of the user about agreement on generating of electronic signature data with an electronic watermark in the commercial transaction, based on registered user's contact information, in a case where electronic  
10 signature data is transmitted through the dealer terminal, and the user confirming part notifies the dealer terminal of rejection of generation of the electronic signature data with an electronic watermark, in a case where user's confirmation is not obtained.

15 14. An electronic commerce system for conducting a commercial transaction between a user and a dealer, comprising:  
a user identity information reading part provided in a dealer terminal, for reading user identity information presented by the user;  
a commercial transaction information presenting part provided in the  
20 user terminal, for presenting commercial transaction information representing contents of the commercial transaction obtained from the dealer terminal;  
a hand-written signature input part provided in the user terminal, for reading a hand-written signature input by the user who agrees to the  
25 presented commercial transaction information as electronic signature data;  
an electronic watermark embedding part provided in the user terminal, for providing commercial transaction identity information that uniquely specifies the commercial transaction to the electronic signature data as electronic watermark information, thereby generating electronic signature  
30 data with an electronic watermark; and  
a commercial transaction data storing part provided in the dealer terminal, for obtaining the electronic signature data with an electronic

watermark, and storing the electronic signature data together with the commercial transaction information.

15. An electronic commerce system according to claim 14, wherein the third-party organization includes a signature authenticating part for searching for previously registered authentic signature data of the user, based on the user identity information, and comparing the input electronic signature data with the authentic signature data, thereby authenticating the electronic signature data.

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16. An electronic commerce system according to claim 15, wherein the electronic watermark embedding part includes an electronic signature data abstracting part for generating abstract information by abstracting the electronic signature data to electronic data with a previously specified bit length, and provides the abstract information as well as the commercial transaction identity information to the electronic signature data as electronic watermark information.

17. An electronic commerce system according to claim 14, wherein the electronic watermark embedding part includes an electronic signature data abstracting part for generating abstract information by abstracting the electronic signature data to electronic data with a previously specified bit length, and provides the abstract information as well as the commercial transaction identity information to the electronic signature data as electronic watermark information.

18. An electronic commerce system according to claim 14, comprising a hand-written signature omission determining part for determining whether or not processing of authenticating hand-written signature is omitted, based on the commercial transaction information,

wherein, in a case where omission of a hand-written signature is admitted by the hand-written signature omission determining part, reading of

electronic signature data by the hand-written signature input part and generation of the electronic signature data with an electronic watermark by the electronic watermark embedding part are omitted, and the read user identification information and the commercial transaction information are stored in the commercial transaction data storing part.

19. An electronic commerce system for verifying correctness of a commercial transaction between a user and a dealer, comprising:

10 a commercial transaction information obtaining part for obtaining commercial transaction information representing contents of the commercial transaction;

an electronic signature data with an electronic watermark obtaining part for obtaining electronic signature data with an electronic watermark in which commercial transaction identity information uniquely specifying the commercial transaction is provided as electronic watermark information to the electronic signature data used for the commercial transaction;

15 a tampering check part for inspecting the electronic watermark information of the electronic signature data with an electronic watermark, thereby checking whether or not the electronic signature data with an electronic watermark is tampered;

20 a commercial transaction identity information extracting part for extracting commercial transaction identity information from the electronic watermark information of the electronic signature data with an electronic watermark;

25 a commercial transaction information searching part for obtaining commercial transaction information uniquely specified by the commercial transaction identity information from the commercial transaction information storing part storing authentic commercial transaction information; and

30 a verifying part for comparing the commercial transaction information obtained by the commercial transaction information obtaining part with the commercial transaction information obtained by the commercial transaction information searching part.

20. An electronic commerce method for conducting a commercial transaction between a user and a dealer, comprising:

- 5 reading user identity information presented by a user at a dealer terminal;
- presenting commercial transaction information representing contents of the commercial transaction at the dealer terminal;
- reading a hand-written signature input by the user who agrees to the commercial transaction information presented at the dealer terminal as
- 10 electronic signature data;
- obtaining the commercial transaction information representing contents of the commercial transaction and the user identity information from the dealer terminal in a third-party organization;
- providing commercial transaction identity information uniquely
- 15 specifying the commercial transaction to the electronic signature data as electronic watermark information in the third-party organization to generate electronic signature data with an electronic watermark; and
- obtaining the electronic signature data with an electronic watermark and storing it together with the commercial transaction information at the
- 20 dealer terminal.

21. An electronic commerce method for conducting a commercial transaction between a user and a dealer, comprising:

- 25 reading user identity information presented by a user at a dealer terminal;
- presenting commercial transaction information representing contents of the commercial transaction at a user terminal;
- reading a hand-written signature input by the user who agrees to the commercial transaction information presented at the user terminal as
- 30 electronic signature data;
- obtaining the commercial transaction information representing contents of the commercial transaction and the user identity information from



the dealer terminal, and obtaining the electronic signature data from the user terminal in a third-party organization;

providing commercial transaction identity information uniquely specifying the commercial transaction to the electronic signature data as electronic watermark information to generate electronic signature data with an electronic watermark in the third-party organization; and

obtaining the electronic signature data with an electronic watermark and storing it together with the commercial transaction information at the dealer terminal.

22. An electronic commerce method for conducting a commercial transaction between a user and a dealer, comprising:

reading user identity information presented by a user at a dealer terminal;

presenting commercial transaction information representing contents of the commercial transaction obtained from the dealer terminal;

reading a hand-written signature input by the user who agrees to the commercial transaction information presented at the user terminal as electronic signature data;

providing commercial transaction identity information uniquely specifying the commercial transaction to the electronic signature data as electronic watermark information to generate electronic signature data with an electronic watermark at the user terminal; and

obtaining the electronic signature data with an electronic watermark and storing it together with the commercial transaction information at the dealer terminal.

23. An electronic commerce method for verifying correctness of a commercial transaction between a user and a dealer, comprising:

obtaining commercial transaction information representing contents of the commercial transaction;

obtaining electronic signature data with an electronic watermark in

which a commercial transaction identity information uniquely specifying the commercial transaction is provided as electronic watermark information to the electronic signature data used for the commercial transaction;

5 inspecting the electronic watermark information of the electronic signature data with an electronic watermark, thereby checking whether or not the electronic signature data with an electronic watermark is tampered;

extracting commercial transaction identity information from the electronic watermark information of the electronic signature data with an electronic watermark;

10 retrieving commercial transaction information uniquely specified by the commercial transaction identity information from previously stored authentic commercial transaction information; and

comparing the obtained commercial transaction information with the retrieved commercial transaction information.

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24. A computer-readable recording medium storing a processing program that realizes an electronic commerce system for conducting a commercial transaction between a user and a dealer, the processing program comprising:

20 reading user identity information presented by a user at a dealer terminal;

presenting commercial transaction information representing contents of the commercial transaction at the dealer terminal;

25 reading a hand-written signature input by a user who agrees to the commercial transaction information presented at the dealer terminal as electronic signature data;

obtaining the commercial transaction information representing contents of the commercial transaction, the user identity information, and the electronic signature data from the dealer terminal in a third-party organization;

30 providing commercial transaction identity information that uniquely specifies the commercial transaction to the electronic signature data as electronic watermark information in the third-party organization, thereby

generating electronic signature data with an electronic watermark; and  
obtaining the electronic signature data with an electronic watermark  
and storing it together with the commercial transaction information at the  
dealer terminal.

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25. A computer-readable recording medium storing a processing program that  
realizes an electronic commerce system for conducting a commercial  
transaction between a user and a dealer, the processing program comprising:

reading user identity information presented by a user at a dealer  
10 terminal;  
presenting commercial transaction information representing contents  
of the commercial transaction at a user terminal;

reading a hand-written signature input by a user who agrees to the  
commercial transaction information presented at the user terminal as  
15 electronic signature data;

obtaining the commercial transaction information representing  
contents of the commercial transaction and the user identity information from  
the dealer terminal, and obtaining the electronic signature data from the user  
terminal in a third-party organization;

20 providing commercial transaction identity information that uniquely  
specifies the commercial transaction to the electronic signature data as  
electronic watermark information in the third-party organization, thereby  
generating electronic signature data with an electronic watermark; and

obtaining the electronic signature data with an electronic watermark  
25 and storing it together with the commercial transaction information at the  
dealer terminal.

26. A computer-readable recording medium storing a processing program that  
realizes an electronic commerce system for conducting a commercial  
30 transaction between a user and a dealer, the processing program comprising:

reading user identity information presented by a user at a dealer  
terminal;

presenting commercial transaction information representing contents of the commercial transaction obtained from the dealer terminal;

reading a hand-written signature input by a user who agrees to the commercial transaction information presented by a user terminal as

5 electronic signature data;

providing commercial transaction identity information that uniquely specifies the commercial transaction to the electronic signature data as electronic watermark information at the user terminal to generate electronic signature data with an electronic watermark; and

10 obtaining the electronic signature data with an electronic watermark and storing it together with the commercial transaction information at the dealer terminal.

27. A computer-readable recording medium storing a processing program that realizes an electronic commerce system for conducting a commercial transaction between a user and a dealer, the processing program comprising:

15 obtaining electronic signature data with an electronic watermark in which commercial transaction identity information uniquely specifying the commercial transaction with respect to the electronic signature data used for the commercial transaction is provided as electronic watermark information;

20 inspecting the electronic watermark information of the electronic signature data with an electronic watermark, thereby checking whether or not the electronic signature data with an electronic watermark is tampered;

25 extracting commercial transaction identity information from the electronic watermark information of the electronic signature data with an electronic watermark;

retrieving commercial transaction information uniquely specified by the commercial transaction identity information from previously stored authentic commercial transaction information; and

30 comparing the obtained commercial transaction information with the retrieved commercial transaction information.